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EDITORIAL

GEORGE W YORK, EDITOR

Foul Brood.—On page 310 will be found an interesting report on the subject of foul brood, by Hon. R. L. Taylor, of the Michigan Experiment Apiary. Bro. Root, in speaking of Bro. Taylor's report, said this in *Gleanings* for Feb. 15th:

After having read it over carefully, we do not hesitate to endorse every line of it. It is surprising how closely it agrees with the statements we made last year, respecting this disease, and yet Mr. Taylor's conclusions were reached over a different route. We feel now more than ever, as touching this disease, that what we know we *know*.

The "statements" referred to by Bro. Root, as having been made by him last year, will be found on page 374 of the BEE JOURNAL for Sept. 21, 1893.

Southwest Texas.—On page 300, Mrs. Atchley pays her compliments to a certain writer who has given unfavorable reports about Southwest Texas, and especially Presidio county. Upon referring to the map of Texas it will be seen that Presidio is one of the extreme western counties of the State, and over 450 miles west of Beeville and the county in which Mrs. Atchley lives. Beeville is almost in the southeastern part of the State, and near the Gulf of Mexico, so that its climate and general productiveness of soil is quite different from the barren, deserted county of Presidio.

We give the foregoing explanation in justice to Mrs. Atchley and the T. J. Skaggs R. E. Co., both of whom are endeavoring to find good homes for those who are seeking them. We understand that the firm mentioned is composed of honest, upright men, who wish to help their fellowmen in a praiseworthy and straight-forward way. Their advertisement will be found on another page of this number of the BEE JOURNAL.

While on this subject, let us say that we think that no one should rush off to a strange part of the country, intending to locate permanently, without first having thoroughly and personally investigated the advantages and disadvantages of the new place. We believe in people trying to better themselves if possible, but we also feel that every right-minded person will agree with us in urging deliberation upon those who expect to make a permanent move.

Ontario Honey at the Fair.—Bro. R. McKnight, whom we felt it a duty to "take to task" a little on page 201, sends the following explanation of his position in the matter, which we think in fairness to him should appear in the BEE JOURNAL:

OWEN SOUND, Ont., Feb. 22, 1894.

FRIEND YORK:—In your issue of the 15th inst. (which has just come into my hands), I find you gently take me to task, because of what I wrote in the *Canadian Bee Journal* for February about the prizes taken by the Canadian exhibitors of honey at the World's Fair.

In your comment you say: "With the slight exception that Ontario honey did *not* compete with United States honey at all,"

etc. Again, "It pays to be *posted* before speaking quite so dogmatically and boastingly."

Here you assert (dogmatically, too) that Ontario honey did not compete with United States honey. My reply is it certainly did. It surely was brought into competition as to its quality, or no prizes would have been awarded to it or any other honey. Quality in honey, like beauty in the world of Nature, is a thing of comparison. If there were no *standard* for either, there could be no *degree* of excellence in either. I did not assert, and I do not now say, that the Ontario exhibit came into competition with the Illinois or any other exhibit, or that the individual contributions in any of these came into competition with one another, in the popular sense; but I do say that every collection and every individual exhibit in these collective exhibits was judged, and awards granted or withheld, just as they came up, or failed to come up, to an ideal or real *standard* of quality previously fixed by the Judge; and, under the circumstances, this was the fairest test that could have been adopted.

Now this standard was the touch-stone to which both Canadian and United States honey was brought, and by this standard they were judged; and being judged by this standard, they certainly came into competition. Whichever came nearest to this standard, in their greatest relative quantities, or in the greatest number of their individual contributions, might fairly be pronounced the best. If Ontario stood at the head of the list (as it did) in this test, then its comparative merits were the greater, and it must be considered as ranking highest in the competition for prizes, and it is neither dogmatism nor bombastic to say so. Is it correct, then, to say (as you say) that Ontario honey did *not* come into competition with United States honey? I agree with you "that it pays to be *posted* before speaking dogmatically or boastingly." I have never made a practice of writing at random, or indulging in glorification without cause.

Yours respectfully,
R. McKNIGHT.

It seems in the foregoing that Bro. McKnight has drawn quite a fine distinction in the matter of honey competition or comparison. Of course, we intended to claim (and do yet) that, as it was generally understood, Ontario honey did not compete with United States honey at all, though it may have had to measure up to a certain "standard" fixed in the mind of the apiarian judge by which to decide upon the merits of all the honey exhibited. If we are wrong in our ideas about this, we are certainly willing to be set right by Hon. Eugene Secor, who recommended the awards on honey at the World's Fair, if he can say anything on the subject without being drawn into any controversy against his wishes. Perhaps, however, something on the subject would help to straighten us all out, and thus avoid any unnecessary discussion.

Experiment Stations, Etc.—Prof. Cook, in referring to the annual support State experiment stations receive from the general government, says:

Mr. R. L. Taylor is mistaken in the assertion that the experiment stations get an increase from the government each year. The amount is $15,000 each year, and only that. The increasing appropriation was for Agricultural Colleges.

About the prospects for a honey crop this year in California, Prof. Cook wrote this on Feb. 19th:

California has now had 11 inches of rain. They say that 15 inches insures a good crop of honey.

Importance of Bee-Keeping.—At the late California convention Mr. Francis W. Blackford, in an essay on bee-keeping, among other facts said that the annual value of honey in the United States is close upon $100,000,000; and the number of colonies of bees kept by apiarists equaled about one-fifth of the number of sheep in the United States. This would place the number of colonies of bees at 9,000,000, which, at an average value of only $3.00 a colony would represent an investment of $27,000,000 in bees alone. It seems to us that if these figures are anywhere near the truth, bee-culture is deserving of a great deal more recognition than it is now receiving at the hands of the National and State governments.

To Detect Glucose Adulteration—On page 136, in commenting on Bro. Root's remarks on detecting adulterated honey by the taste, we said that if he would only furnish an "easy formula" he would "see how quickly we'll print it;" and also that "for once wanted him (Bro. Root) to come out ahead." Well, in reply to our editorial, here is what we find on the subject in *Gleanings* for Feb. 15th:

Bro. York, replying to our editorial on page 63, wherein we criticised Veteran for not making his glucose test thorough, calls our attention to the fact that the directions that Veteran went by differed from those that we had; that Veteran's test was thorough, according to *his* directions. And now

Bro. York asks how we may be able to detect glucose by the taste, and asks for a simple formula for detecting adulterations in honey. Why, bless you, Bro. York, we thought we did; but as we did not, perhaps, make ourselves clearly understood, we will explain more fully.

THE TASTE TEST FOR GLUCOSE.

Such glucose as is used in commerce has a disagreeable, rank, metallic taste, very pronounced: and one who has tasted such pure glucose can easily recognize the stuff when mixed in honey; that is, providing the proportions are not less than 25 per cent. This can be done as easily as the good housewife can tell whether salt has been put into an oyster-stew. In fact, we believe *we* could tell quicker, ourselves, glucose in honey than salt in the stew. It is impossible for us, of course, to set forth in language just how the glucose tastes in honey, so we have sent to Bro. York a sample of the finest glucose we could buy on the market—that is, such glucose as is used commercially for adulterating. It is called "Crystal A," the very best. Now, if Bro. York will take a liberal dose of this glucose, and, later on, get his better half, or somebody else, to introduce, "behind his back," proportions of ¼, ⅛, and ⅜ into variously numbered samples of honey, we think that, when they are placed before him, together with samples of pure honey, he will be able to separate "the sheep from the goats."

We ought to say, in this connection, that there is glucose from which the rank, disagreeable, metallic taste has been almost entirely eliminated, and the use of which in honey might not be detected. We have had small samples here, but we cannot get it for less than 5 cents, and this would be more expensive than sugar syrup. If this is true, we have, therefore, practically nothing to fear from glucose of this quality. It is only the rank, disagreeable stuff costing about 2¾ cents, which we have sent to Bro. York, that is used commercially. As to Veteran's experiment with the use of alcohol, we have to acknowledge that his formula was not the same to which we referred. In looking over the test which he followed, we find it to be a sort of corruption, evidently taken from the alcohol test which we took from the *Bienen-Vater*. That test reads as follows:

"Take a table-spoonful of honey to be tested; pour into a small bottle, and then add three spoonfuls of pure spirit, and shake the whole together thoroughly. In about a quarter of an hour there will form in the bottle a cloudy, whitish sediment; and from this one may be sure the honey is adulterated."

This, if carefully followed, will, we believe, give quite satisfactory results. We did not mean to say, on page 63, that *all* forms of adulteration can be detected; but we desired to convey the idea that it was our belief that *ordinary glucose* mixtures of honey could be recognized by the ordinary bee-keeper. The principal, and only adulterant of honey, is probably glucose. Sugar syrup is used rarely if ever.

In conclusion we would say that the only way to detect glucose (that is, the commercial article) in honey *by the taste* is to get a small sample of the stuff, and learn how it tastes.

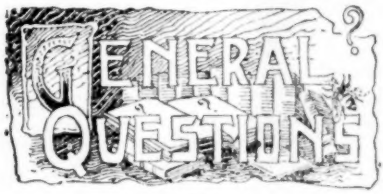
P. S.—Since writing the above we have learned that a number of glucosed samples of honey, together with other samples of pure honey, were placed before Prof. Cook at the Los Angeles convention, recently held in California. The Professor recognized each one by the taste.

Well, Bro. Root, the sample which you so kindly sent us, of the "rank, disagreeable stuff," was duly received, and we have just been making the tests as per your suggestions, as follows:

We had some excellent basswood honey, and mixed the glucose in samples in the proportions named by Bro. Root, and then tasted. We could easily recognize the difference in taste between the ¼ and the ⅜ glucose, but not so easily between the ⅛ and ⅜. We also could discern a certain mildness and castor-oilyiness of flavor in the ¼ glucose sample, and really we would prefer the taste of pure castor-oil to that of the disgusting glucose that Bro. Root sent us. If that is a fair sample of the "vile stuff" used by honey adulterators, we feel sorry for the people who are deceived into buying the nauseating compounds. We don't want any more of it!

In our opinion, it surely would require an educated taste to detect a 25 per cent. glucose adulteration of honey, and we doubt very much if people in general will take the trouble to acquaint themselves with the "rank, disagreeable, metallic taste" of commercial glucose, so as to be able to detect its use in the honey they may purchase. Of course, *we* may possess a very poor "tasting apparatus," still our "better half," judging from our alertness in detecting anything out of the ordinary in eatables, thinks that we have either a good taster or else a very strong imagination. This, however, is only her opinion, as we may possibly have neither.

It seems to us that the only practical and reliable method of detecting honey adulteration must finally come from chemical tests, and when once it is satisfactorily shown (and that time may now be here) that chemistry can be depended upon to detect the adulteration of honey, the adulterator can then quickly be located, and promptly prosecuted under the National law that must soon be enacted for the protection of all honest producers of food products.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Are All 3-Banded Bees Italians?

Are all bees Italians that show three distinct yellow bands? My reasons for asking are these:

I got a swarm from the woods from which I reared 5 colonies, and all had three yellow bands, the bees being a dark leather in color. Last fall I got two Italian queens from a breeder in Kentucky, and the bees from these are a very little lighter than the ones I got from the woods. I enclose one of the latter, thinking you might tell whether it was a black or Italian. All our wild bees here plainly show the thee bands.

Langlois, Oreg. F. M. L.

ANSWER.—If *all* the bees of a colony have three yellow bands, that's considered proof of purity. In the first cross between blacks and hybrids, you will have some with three yellow bands and some with none. It is not so easy to judge from a dead bee, but I should not call the specimen sent a pure Italian. As nearly as I can tell, the edge of the bands is yellow, but the whole band should be yellow. Look at the living bees, and if all the bees have three bands that are yellow their whole width, then call them Italian.

Why Do Bees Rear Several Cells?

Why do bees rear several queen-cells, and as soon as the first one hatches, the bees or queen destroys the balance of cells immediately? That is the general rule taught, I believe, with a few exceptions, although contrary to my short experience, as I have given queenless colonies a frame of brood and in three or four day's after they had started queen-cells I gave them a young virgin queen, and they would accept her all right and finish up or seal the queen-cells as though queenless; but as soon as mated they would destroy all cells unless caged. I suppose the extra cells are for a purpose. What is it? M. W. L.

ANSWER.—Nature seems to have a way of being rather lavish in her preparations. Hundreds of drones are reared where only one is needed. Most of the blossoms on an apple-tree fail to produce fruit, and, if all should set, the tree could not support it. I suppose it is a matter of safety to have a number of queens started and reared. I've seen many a cell with a dead grub in it. If that had been the only one in the hive the bees might be in bad shape, especially if they had no old queen. Sometimes the bees let more than one queen hatch, then the queens fight it out, and the fittest survives.

I think your experience is not exceptional. You see you were varying the usual program. Usually there will be a number of young queens all nearly of the same age, and in your case the princesses were all much younger than the one you introduced, and she was not very jealous of such young things.

Besides, it is possible that the bees didn't feel quite so sure of a princess that had so suddenly appeared in their midst, and thought it the safer way to keep the younger ones going till they found how the older one would turn out.

Rape and Simpson Honey-Plant.

How are rape and the Simpson honey-plant for honey? Is their honey good, and of ready sale? M. S.

Brentwood, Ark.

ANSWER.—At one time much was said about the Simpson honey-plant, but I'm not sure whether anyone ever got enough honey from it unmixed with other kinds to tell much about it. In Europe rape is valued as a honey-plant. I *think* rape honey is dark and the other light, but I may be mistaken. If you get the honey, I think the market will be all right.

Bees that Had Tempers.

In the spring of 1893 I had six colonies of black and hybrid bees that had been wintered on the summer stands. I took 440 pounds of extracted honey from them, and kept a number of combs unextracted. One colony swarmed once, and the swarm got away, as I happened to be away from home at the time. I then divided them, making six more colonies, and gave each of them some of the combs full of honey, and some of the empty ones. The latter part of the summer and all of the fall was very dry, so the honey was almost all from white clover and sweet clover. These blacks and hybrids of mine are busy workers—but oh, they have most terrible tempers!

I don't mind that myself, but unfortunately, the bee-yard is within 50 feet of the house our tenant lives in, and every time I had occasion to disturb the bees, they would pitch on to the folks whenever they came out of the house for a week after. They did not complain, but I disliked seeing my bees annoy them so much, and seeing the advertisements of queen-breeders stating that their golden Italians were as

gentle as flies, I sent for seven golden Italian queens last August, and introduced six of them successfully, as they had yellow bees flying before cold weather set in. It was so late before I noticed that the seventh one was queenless, that I got a cheap mismated Italian queen for it, and intend to get six more golden Italian queens as early in the spring as it will be safe to get them. Then I hope all my bees will be yellow next summer.

But, do you think they will be gentle enough, to leave the bee-yard where it is? It is in a nice sheltered place on the southeast side of a clump of evergreens. The 12 hives are in pairs, and each pair has a frame-work of boards around them except in front, with hay packed between the boards and the hives. They are also covered with hay and boards, so they are all quite dry and snug. I dislike disturbing them in cold weather, but I am afraid if I leave them until spring, and then move them beyond the evergreens, a hundred feet from their present location, a good many bees will get lost. But of course, I would rather lose a good many than have them molest any one, as they did last summer. How would it do to take advantage of a mild day and carry the hives into the cellar, then put them out on the new stands next spring? J. B.

Bristol, Ills.

ANSWER.—With gentle bees there ought to be no trouble at a distance of 50 feet. But if you want to move them, the plan you propose will work all right. Take them into the cellar on the evening of the day they have a flight. But if they're wintering in good condition where they are, I believe I would let them alone till spring. Then move them late enough in the day so they will not fly. Take away all the stands and make the old place look as strange as possible. Put a board up before each hive, so that the bees will bump against it when they fly out, and that may make them mark the place of their new home.

Dividing Colonies for Increase.

After reading "Bees and Honey," also "A B C of Bee-Culture," in regard to dividing bees for increase, I must say that it don't suit me, for there is too much work about it. Why couldn't I take a frame of brood with the queen and put in an upper story with a queen-excluding honey-board between, and on the 10th or 12th day set the old hive on the new stand, and by doing that way I would not have any colony queenless? What I want to know is, if I can get a good crop of honey if I divided that way in the spring.

I know it will work to a charm for I tried it last season after the white clover honey-flow was over, without asking the consent of Bro. Root, for he says a novice had better not try any experiments. A. E. B.

Hammond, Wis.

ANSWER.—I hardly suppose Bro. Root means to say you shall never try any experiments, for he's about the last man in the world that would consent not to make any. But I suspect that you will find out it is not best to experiment on too large a scale till you know your ground pretty well. I suppose you're a good bit like myself: when you think you've got a good idea, you want to try it on your whole apiary. But it's pretty safe to go by the books as a rule, and let your new plans be the exception—at least till after you've proved them.

You say of your plan, "I know it will work to a charm, for I tried it last season." Yes, but are you sure it will work just the same way next time? I suppose the bees started queen-cells in the lower story as soon as you put the queen above, and then in 10 or 12 days a young queen was ready to hatch out. They've done that thing for me all right, and then the very next one wouldn't rear a queen at all. But I think they might be more likely to do it near swarming time.

But I wouldn't do it in the spring. I think you'll gain it to wait till about swarming time. For if you divide too early you'll weaken both parts so much that you'll not get so much honey. I think there may be something in the plan, at any rate it's worth trying, but I wouldn't try it on too large a scale, and I wouldn't divide much before the time of natural swarms.

Be sure and tell us how you come out.

"Driving" Bees in Transferring.

I am wintering my bees this winter in a long box covered with glass, which I cover with straw according to the severity of the winter. I have given them two or three good flights so far this winter, and they seem to be doing well. I have some bees in box-hives which I wish to transfer into Langstroth hives as I have adopted that hive. In transferring, had'nt I better kill the old queens and give the transferred colonies select Italian queens, and leave the box-hives queenless for 21 days, with drone-traps on them? And in the last drive from the box, give them these select queens again, and put in their places queen-cells which I will rear and keep the drone-cells cut out of all the movable-frame hives? T. H.

Doncaster, Ont.

ANSWER.—If I understand you, your plan is driving rather than transferring. I don't altogether like the plan. As you are evidently planning for more than one drive, why not leave the old queen with the first drive, and then you are sure of a strong colony with her, leaving the drive on the old stand, and setting the queenless box-hive on a new stand? A day or so later the bees in the box-hive will very readily accept your new queen, and then you will be able to drive that in its turn. If you read up well in the text-books you may change your whole plan.

Unless you are two miles or more from other bees, it may not make much difference about keeping down drones in your own hives.

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Much Interested—Cruelty to Animals.

MRS. ATCHLEY:—My husband wishes me to say to you that he is very much interested in your department, which, by the way, I enjoy myself. He also wishes to know if you are going to keep that man standing there all the time spraying that swarm of bees? Does he not get tired? And is not the swarm rather patient to remain and take such a "ducking" all the while?

Thank you for the long Texas moss.

MRS. EDW. SMITH.

Carpenter, Ills.

Dear Mrs. Smith, I am very glad indeed to know that you and your husband are interested in my department. I know that it falls far short of what it should be, as I am too busy to give it the thought I ought to, but I shall try to devote more time and attention to it soon, and try to make "In Sunny Southland" more and more interesting. Thanks for kind words.

I shall accuse Bro. York of using "cruelty to animals" in punishing both the man and bees in the heading of my department. JENNIE ATCHLEY.

Preparing Bees for Shipment.

MRS. ATCHLEY:—I wish to know how to prepare bees in chaff hives to ship by railroad with household goods and stock from Nebraska to Texas. Would they not smother unless the brood-nests were raised up to allow ventilation?

Pawnee City, Nebr. C. H. HARE.

Friend H., I must confess that I never saw a chaff hive—I have only seen them pictured and talked about. But if you move before warm weather, say March 15th to April 1st, your bees will move all right by just closing the entrances with wire-cloth. If the weather is warm, you would better take the covers off, and use wire-cloth on the top, and it is best to leave an open space above the frames; or if the bees are strong and heavy with brood, take out every alternate frame and place empty ones between, placing the brood you draw out in an upper story with empty frames between also, and wire-cloth on top, and all will transport safely, if you see to the hauling yourself.

I move bees any time of the year I wish to, but I keep the temperature down with water, and am careful to place the hives in the car in such way that the frames are lengthwise of the car. JENNIE ATCHLEY.

Southwest Texas—The Other Side.

I notice that on page 218 some friend comes out under the above heading, and leaves the impression that some one has been giving only one side. If my friend means that, he is giving only his side of Texas, or his end, rather, as he is just about as near out of the world in Presidio county as one can well get, and is about 400 miles west of Beeville. But as he says *all* of southwest Texas is like Presidio county, I presume he thinks I have been over-picturing this region. But I suppose, as our friend is writing in or about Presidio county, he means west Texas, as that is where Presidio county lies; and I think he is very much mistaken when he says *all* of southwest Texas is like Presidio county. I love to use common courtesy always, and by my saying that I know *all* of southwest Texas is *not* like Presidio county, I trust it will not offend the good friend in question.

Right here I wish to state that I have no "ax to grind," and looking for some one to turn the stone, as I have no land for sale; nor do I think I ever shall, nor am I in anyway connected with any one that has land for sale. But what I am after is this: We have a fine, rich country here in *this* part of Texas, and tons and tons of honey going to waste annually, and I am not one bit selfish about it—I want bee-keepers to come and occupy these fields and save the precious sweets that evaporate upon the gentle sea breezes. I received orders last year for two carloads of honey more than I could fill, and the honey is here, if we had the bees and bee-keepers to harvest it.

Our friend ("One Who Has Seen It"

is all the name I know for him) should use his eyes to look beyond the horizon of Presidio county, and not be content to reconcile himself to the mistaken idea that Presidio county is all of southwest Texas. I am perfectly willing to believe, with him, that in his county people may live on beef and beans at times, but he may have a shiftless people, as such are usually content to use a rock for a pillow, and use the open canopy of heaven for a covering; but this is not the kind of people we have here, nor is it the kind we are wanting. We need people that are willing to work for a living, and not to be a burden upon the community in which they live. If such people that are without homes, or those wishing to come to a *fine* Southern country, I am not ashamed to invite you to this part; and if *ever* you find a single family living on jerked beef and beans alone, then tell me I have overdrawn this country, and I will take it all back. In fact, we have not got them!

But, on the contrary, we have a people that are doing well and making *money* at farming, and money is easier to-day in our county than in Chicago. No business failures, of 20 or 25 merchants here; our banks have plenty of money, and let the people have it at 10 per cent. per annum, and confidence is good, as they are pleased with the future of the surrounding country.

I had a bee-keeper visit me yesterday —Mr. P. M. Roby, of Chanute, Kans.— and I took him to an orange *orchard*, and he plucked oranges—not from paper, but from the trees—and says I have not nearly pictured this country as large as I ought. Others have been here and looked out locations, and are making arrangements to bring their bees and their *all* to this county.

You know I have been very careful about giving my advice to those wishing to come; but I feel it my duty to tell a brother bee-keeper all about the country when he asks me to do so, and any time our readers are tired of such reading let me know, and I will stop. But I must tell you that this is the finest bee-country I ever saw, and I have seen a good many different places. I am now, in this letter, giving both sides, as there are thorns here along with the roses, and you need not expect to find the honey pond and the fritter tree here, but you can produce the honey and the fritters if you are willing to work; otherwise you would better stay where you are.

JENNIE ATCHLEY.

Railroads, and Demand for Honey.

MRS. ATCHLEY:—Will you tell me if you have good railroad facilities at Beeville? Is there a demand for honey in your country? I would like to go to a place where there is not so much drouth and dust as we have here in Illinois, and where I can sell my honey, and where it is a better place for bees than here.

JOHN A. WILMONT.

La Prairie Centre, Ills.

Friend Wilmont, I do not know whether you would benefit yourself or not by coming to this part, but we have two railroads that lead out to all parts of the world, and we have what we call a good honey market at home. Extracted sells here at 10 cents per pound, and comb honey at 12½ to 15 cents, in sections. I feel satisfied that this is a fine honey country, and the honey of this particular part of Texas will rank along side of any honey in the United States.

But we have some drouths here, too, but it does not hurt bee-keepers like it does in countries where the honey is mostly gathered from plants, clovers, weeds, etc. Our honey comes from trees and shrubs, and is not affected by drouth as weeds are, consequently we get some honey every year, as Nature has placed trees and plants here that can withstand the drouths. We actually need dry weather in this country in the fall and early winter, as we do not have any cold weather to check the growth of vegetation, and run the sap down in trees, etc., and the dry falls serve for the same purpose here as winter does north of us, and we *must* have it. But we seldom have a drouth until all farm crops are made, so the farmers have a delightful time to harvest.

JENNIE ATCHLEY.

Honey as Food and Medicine.

THIS is a little 32-page pamphlet that is just the thing needed to create a **demand** for HONEY at home. Honey-producers should scatter it freely, as it shows the valuable uses of Honey for Food as well as for Medicine. It contains recipes for making Honey-Cakes, Cookies, Puddings, Foam, Wines etc. It is intended for consumers, and will be a great help in popularizing honey among the people everywhere, if the pamphlet is liberally distributed.

Prices, prepaid—Single copy, 5 cts.; 10 copies, 35 cts.; 50 for $1.50; 100 for $2.50; 250 for $5.50; 500 for $10.00; or 1000 for $15.00.

When 250 or more are ordered, we will print the bee-keeper's card (free of cost) on the front cover page.

Wintering in a Cave—Sugar for Bees.

Query 913.—1. Can bees be kept over winter, to good advantage, in a cave or out-door cellar, with a 3-inch tiling pipe for ventilation, etc.?

2. It has been recommended that light brown or standard A sugar be fed to bees. I have always fed mine granulated sugar, as that cannot be adulterated like the light brown. Now which of the two is the better to feed? or is there any difference?—Subscriber.

1. I think they can. 2. I use granulated.—J. P. H. BROWN.

1. Yes. 2. The granulated is by far the best.—DADANT & SON.

1. Yes. 2. I use and prefer the granulated.—G. M. DOOLITTLE.

1. I don't know. 2. I have fed the granulated with good results. I never fed any other brand.—E. FRANCE.

1. Why, of course, with the temperature humidity and purity of the air just right. 2. Granulated.—J. H. LARRABEE.

1. Yes. 2. Never feed brown sugar for winter in the North. Granulated sugar is the best that I know of.—H. D. CUTTING.

1. Yes. 2. The better grades of light brown sugar can be fed for winter stores, but they are not so good or cheap as the granulated variety.—C. H. DIBBERN.

1. Yes, but a 3-inch pipe isn't all that's needed to keep bees well over winter. 2. I believe granulated sugar is the best at all times.—A. B. MASON.

1. Yes, if well constructed and not overstocked. 2. We feed granulated when we feed. Standard A does very well, but has more moisture.—P. H. ELWOOD.

1. Yes, if the temperature can be kept at the right point. 2. For winter stores granulated sugar should always be used in preference to anything cheaper.—R. L. TAYLOR.

1. That depends. I could tell better after I had tried it. 2. I've always fed granulated sugar, and it appears to contain chemicals when boiling water is poured into it.—MRS. L. HARRISON.

1. Ask Doolittle. He makes it a success. 2. I think the AMERICAN BEE JOURNAL has always recommended granulated, and it's the best. But I don't feel so sure it cannot be adulterated.—C. C. MILLER.

1. I think that would be just the same as a cellar ventilated the same way, and we have heard they were successful. 2. I prefer the granulated, though only because I have always taken it for granted.—JAS. A. STONE.

1. How many colonies? A few can, undoubtedly, but 100 ought to have more ventilation. 2. If for winter stores, in confinement, I would use only the best refined. When bees can fly it will probably do to feed cheaper sugar.—EUGENE SECOR.

1. I can testify to having wintered a good many colonies in out-door cellars with the right temperature (45°) and good honey. There is nothing to prevent their being successfully wintered in such receptacles. I should prefer to risk the granulated.—S. I. FREEBORN.

1. I knew a man in Lansing, Mich., Mr. Abner Brown, who kept kees in such a cave very successfully for years. 2. Except for winter use, the brown is all right. For winter in the East I would use only granulated. Any kind would answer here in California.—A. J. COOK.

1. I do not know. I have never had any experience, but I do not think I have any use for any kind of a cave to winter bees. 2. For winter food I should use nothing but granulated sugar. The brown may do in the spring, when the bees can fly.—EMERSON T. ABBOTT.

1. I have had no experience, but I learn from reading that it has been done with success. 2. Don't feed anything but the "best A No. 1" granulated sugar. None other is safe for winter stores. The brown sugar may be fed in spring and summer for stimulating.—J. E. POND.

1. I have no experience in wintering bees in cold climates. 2. I feed the cheapest cane-sugar I can get, regardless of color. We get it pure here right at the sugar plantations. I prefer brown open kettle to any other sugar, and think it is best for me.—MRS. JENNIE ATCHLEY.

1. Yes, in very cold localities. 2. I have used standard A sugar for feeding, with good results in wintering. I prefer the granulated, as it makes more syrup, pound for pound, than the coffee A sugar. I think there is no difference, but I never used light brown sugar for wintering.—G. L. TINKER.

1. Yes, and in most, if not all cases, no special provision for ventilation is necessary. 2. It is not safe to feed brown sugar for winter. "Standard A" would probably do if pure, but it is often adulterated. Granulated is best for winter stores. For spring feeding the others will do.—J. A. GREEN.

1. I should think so, providing there was no dampness about the cave or cellar. I would put in two 3-inch ventilating pipes—one on each side of the room. 2. Standard A sugar has always answered very well with me. Granulated will do—I would prefer it to light brown; but A is the "standard."—WILL M. BARNUM.

1. I have no experience along this line. My bees winter in their summer homes. 2. I used to feed coffee "A" when I had to feed sugar to save my bees. The standard "A" that I used to buy was white and pure. I would not use the *pale* yellow article. Perhaps there is not a pound of *pure* sugar on our markets. Best granulated is the safest.—G. W. DEMAREE.

1. Yes! and no! It all depends upon conditions that are not named. Some caves and out-door cellars with the ventilation you mention, would do very well, and others would kill all the bees put into them. 2. You are mistaken in saying that granulated sugar cannot be adulterated. Much of it is. I regard a good article of A coffee sugar as superior to any granulated sugar. It does not granulate in the cells.—M. MAHIN.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

Great Premium on page 285!

Comments on the California Convention.

Written for the American Bee Journal

BY PROF. A. J. COOK.

The recent California State convention was one of the best bee-meetings I ever attended. The hall was crowded all the time—a thing we do not often see at our National meetings in the East. Nor was the quality inferior to the quantity. Such men as Martin, Brodbeck, McIntyre, Woodbury, Corey, Wilkins, etc., are enough to make a rousing bee-convention were they not inspired by numbers. Give them the inspiration of a large gathering of eager, intelligent bee-keepers, and you can well imagine what a feast we had.

CALIFORNIA A GREAT BEE-COUNTRY.

Beyond question, California is by all odds the greatest apiarian district in the United States, if not in the world. From statistics gathered at the meeting, from several who had been in the actual work for years, we learned that while an entire failure was rare, they could count good years for two in three, and that a good year meant about 300 pounds of honey per colony for the whole apiary. With such facts before us, we may readily see that this is the very "Garden of Eden" for the bee-keeper, or perhaps I would better say, the very "Promised Land." Here the business warrants attention, interest, enthusiasm—not simply for its fascination, but for the money that is in it. So the industry must flourish more and more here.

BEES AND FRUIT-GROWING.

One of the questions discussed was the relation of bees to fruit-growing. I put all the emphasis I could upon the TRUTH, that bees are a very important factor in Pomology, which is a tremendous industry here. Now the fruit-men look askance at their neighboring bee-keepers, and some of them even op-

pose and try to drive the bee-keepers away; but the tide is turning; even now a few fruit-growers are openly advocating the securing of bees in the orchards. Some are getting bees to increase their fruit, while a few are around with startling statistics showing that bees increased the fruitage of especially plums and pears astonishingly.

Thus the trend of sentiment, even with the pomologists themselves, is in the right direction. We propose this year to demonstrate some truths that will be eye-openers. So we hope to increase the leaven. When we show the fruit-men of California that the bees are their friends, and no enemies, we will have won over to the advocacy of apiculture in California a large body of the most intelligent and progressive men to be found in any State or Nation.

Mr. Woodbury, in his very able and carefully prepared essay, among the many other good things said: In Italy, where bees and fruit are alike important industries, and have been for generations, there is not only no discord, but the utmost harmony between apiarists and pomologists. They have learned at least that they do not antagonize each other, even if they do not recognize their reciprocal value to each other.

Who shall state correctly the future of bee-keeping in Southern California, when a general appreciation of the value of bees to fruit-culture is secured, and comes to help the natural adaptability of this region to the business of bee-keeping in making the importance of apiculture understood? We shall work untiringly to bring this happy consummation about speedily. So, very soon, California will be known as widely for its bee-keeping as for its gold, its fruit, its marvelous salubrity, and its wondrous beauty and unparalleled climate.

FOUL BROOD IN CALIFORNIA.

The matter of foul brood is of importance here, when it was introduced by purchasing honey to feed. Thus Cheshire's idea that honey does not contain the germs of this fell malady are again disproved. Excellent laws are in force, and with the general intelligence and enterprise everywhere present in this region among bee-keepers, we need have little fear even of this terrible microbe disease. It came in for discussion, as of course it should, but there seemed no tremor of fear, and so this one enemy—for wintering here is assured—brings really no serious disquietude to the bee-keepers.

MARKETING AND TRANSPORTING HONEY.

The marketing and transportation of honey is a live question in California, and called forth much earnest discussion, and some suggestive resolutions. The fruit-men have already organized in a way to make marketing more simple and satisfactory. It is hoped that the honey-producers may gain admittance to their association with great benefit.

Freight rates are enormously high on honey. The question of reasonable reduction will be pressed, and favorable action will without doubt be secured in the near future.

HIVES AND MANIPULATION.

Many matters of methods and manipulations were also considered. It is very evident that in skill of handling and arranging the apiary California is not a whit behind her sister States of the East.

Prof Woodworth, of the State University, was present, and explained a sort of knock-down hive, which he feels may be advantageous. In this hive there are no frames, but the common one-pound section is used in the brood-chamber as well as for extracting and surplus comb honey. The hive goes together without nails. It should be put to actual practice when the propolis of the bees and the ease of manipulation could be studied, before it is recommended to young bee-keepers.

Claremont, Calif.

Dividing Colonies for Increase.

Written for the American Bee Journal

BY H. F. COLEMAN.

I have been interested in the replies to Query 908, on page 142, as to "which is the better plan in dividing colonies, to leave the old queen in the old hive or move her into the new one;" and I desire to give my opinion with reference to it.

I have had considerable experience in dividing colonies for increase, but unless an increase is desired beyond what is obtained by natural swarming, I would not divide at all.

Natural swarming has been the most satisfactory to me, but in case division is desirable, I think it is much the best to leave the old queen on the old stand. Nearly all of the field bees return to

the old stand, which means but little, if any, accession of stores to the new stand, until the young bees themselves become workers in the field; and my experience is that the queen, if taken to the new stand, lays but little during this time. In fact, I have had queens to cease laying entirely at such times, which is quite a loss if we are wanting an increase of bees. Upon the other hand, if the queen is left on the old stand, the increase of stores in excess of the demand, as compared with what was coming in before the division, seems to give her a new impetus, and she increases in laying instead of diminishing.

Besides, I find it much easier to introduce a queen to the young bees on the new stand than to the old bees on the old stand. I have sometimes found it quite difficult to introduce a new queen to the bees on the old stand.

Sneedville, Tenn.

Absolute Prevention of After-Swarms.

Written for the American Bee Journal

BY W. HARMER.

The numerous articles which still appear in our bee-papers on the subject of controlling and preventing after-swarms, as well as the pitiful stories I am told of bees flying away, clearly show the need of some absolutely sure way of preventing their issue. So many are trying cures which, to my mind, surpass the disease in trouble and expense. The opening of hives and cutting out queen-cells is a trouble, and not a cure. The double hive or swarm-catcher is a trouble and expense, which, after being placed in position, may not be needed, so they are not perfection.

Traps will not do, either, as there is often a young queen ready to become fertile, and in apiaries where hives are numbered, the jumping plan and turning hives partly around involves too much labor and recording, especially where several swarms are a daily occurrence. Why, a fellow would need to be perfectly crazy-proof to come out all right after trying to follow all such work with side hives, traps, and swarm-catchers, automatic, plutocratic and otherwise; the jumping and moving hives partly around, opening hives and cutting out queen cells after you think you have found them, and moving hives in just so many days after swarming, as Mr. Frank Coverdale tells about on page 113.

Now, Frank, don't your young queens ever take their wedding flight out through those escapes? and don't you lose a percentage of them by so doing? or perhaps you have queen-excluders over the base of the escape; but, anyway, would you not sooner do away with all this work and fixings if you could positively prevent the issuing of after-swarms by a little manipulation at the time the prime swarm issued? Would it not be money in your pocket instead of out of it? Well, if I tell you, you must promise not to tell, for you know there is "millions in it" (for the world).

I have never seen my system in print, although the part of it we have been discussing is very simple, and can be written in about three lines. It is simply this: Clip the queen's wing, hive the prime swarm on the old stand, and remove all brood and eggs. Just this, and nothing more. Now, if you ever have an after-swarm with this plan (your bees and profits flying off to the woods), please let me know it. You see, I don't have to control what I never have.

But to make the system plain in regard to increase and the disposition of these combs of brood without bees, I would say that I follow the Doolittle plan of cell-rearing, making nuclei when the means permit, which represent my increase and stand in a row or rows at one side or end of my apiary, and are given cells with larvæ from my best queens. As soon as a young queen is laying, her wing is clipped, and, with the aid of these combs of brood, is built up into a strong colony in a week; and as I work for extracted honey, I help to fill up the top chambers with these combs of brood, which are a great help in getting ready for the honey-flow. You can get rid of a lot of brood in this way, and draw on your oldest nuclei to form more, instead of from your honey apiary or colonies.

I do not number my hives, but the position of the stands (which I place perfectly straight in rows of 10 or 20, and are 4 inches high) or stand, indicates the number of the colony recorded, so that it can be seen at a glance what number each colony represents in the book without the trouble of walking around a certain hive to look for the figures.

Another good thing for this system, is that I do not have to introduce queens to queenless hives as we are so often told to do. Why, my dear brothers, the queen has got to come from another hive, and it seems to me to be like robbing Peter to pay Paul, and taking a

great deal of trouble to do it, too. I simply jump the queenless hive with a built-up nucleus that has a laying queen; this has always worked well, and is all done at one time, instead of repeated visits, as in the old way of introducing.

For the introduction of cells, I use the West cell-protector.

The claims of advantage I make for this system are these:

1st. I never have any but prime swarms, or swarms with a clipped queen, so that I never lose my profit by bees leaving my apiary.

2nd. I seldom have to introduce a queen.

3rd. The introduction of cells and attending to the increase is all done in a small space, or on one or two rows.

I am in northern Michigan, and after my winter and spring loss and sales, I took 2,000 pounds of honey from 33 colonies, and no fall honey, as a drouth came in August, with frost killing the buckwheat and other bloom. The season of 1892 gave me 4,000 pounds of honey from 46 colonies, which I could not have had if I had allowed my bees to go to the woods.

Manistee, Mich.

Is Yellow Jasmine Honey Poisonous?

Written for the American Bee Journal

BY MRS. C. L. RICE.

I have seen the several articles in the BEE JOURNAL and *Gleanings*, about the poisonous yellow jasmine honey of the South, and thought I would give our experience with it; but after seeing Prof. Cook's answer, I thought further comment useless, until another article in *Gleanings* for Jan. 15th, asking for information on the subject, and Dr. Brown's article in the Feb. 1st number, I concluded to write what I know about it.

In 1883 we cut out comb from our hives, which was filled with pollen (or bee-bread), with a few cells of honey interspersed. Five of our children ate freely of this "bee-bread," as it is called by old bee-keepers. In a short while they became so weak that they could not stand, and complained of blindness. In alarm we sent for a physician, who pronounced it an overdose of yellow jasmine.

We were beginners in those days, and had only one story to our hives, and squeezed the honey. Now we use two and three stories, and extract, and so we never get the pollen and honey mixed.

At the time our children were poisoned, other members of the family ate of the honey alone, and were not in the least affected. We now use extracted honey without fear of the result.

Is it not possible that all cases of honey-poisoning could be traced to the pollen? I know many old bee-keepers advise eating the "bee-bread" with the "bee-honey," consequently some are made sick, especially by honey taken from the tree at the famous bee-tree cutting picnics.

The yellow jasmine grows plentifully around us, yet we never have had any sickness, as the result of eating *extracted* honey. The flowers open in the very early spring, before the orange, and I should think the honey would be used in rearing brood. Dr. Brown says, in *Gleanings*, that it kills the bees; but why does it not kill all?

I rather think the disease mentioned in *Gleanings*, is bee-paralysis, for it is not the whole apiary that becomes affected—only a few colonies, wherein will be found a quantity of sealed honey from last year's harvest.

With due respect to the experience of others, I submit the foregoing, hoping to see the subject sifted to the utmost limit.

Ramsey, La.

Bee-Keeping in Orange County, Calif.

Written for the American Bee Journal

BY DR. E. GALLUP.

I am going to try to give a sort of pen-picture of bee-keeping and its surroundings in Orange county. There are a few apiaries located in the Santa Ana river canyon that I know nothing about. Our first start will be up the Santiago canyon. Leaving Santa Ana, we pass Orange, connected with Santa Ana by two railroad lines, also a street car line three miles from Santa. Here is a pleasant and prosperous community, with churches, school-house, stores, fruit-ranches, etc.

The next place is McPherson, on a branch railroad where a large raisin packing establishment is located. Then comes Elmodena, with its settlement of Friends or Quakers, church, stores, school, etc. On the left is Villa Park, with its orange groves, fruit-ranches, raisin vineyards, post-office, etc. These

two last-mentioned places are irrigated by water piped from the canyon, and owned and controlled by the land-owners.

Soon after passing into the canyon we pass a large bee-ranch owned by people living at Orange. The next place of interest is the Picnic Grounds for the whole Santa Ana valley, where every May day several thousands of people congregate and enjoy themselves. Those grounds are covered with large spreading and majestic live-oaks, festooned with wild grape vines pending from the out-spreading branches and forming the most perfect natural arbors that one could wish to see; skirted with the sparkling and pure mountain stream.

We next pass near the Santiago coal-mines, 12 miles from Santa Ana. We then arrive at the branch of the creek. Up the north branch is another coal-mine and four bee-ranches. The south branch is called Shrewsbury canyon. Up this we first pass Mr. Carpenter's bee-ranch, then arrive at Madam Modjeska's beautiful villa. She is a world-renowned actress, and selected the site for its reminding her of the Alps—her former home. Here the stream branches again. Up the left is Mr. Harding's bee-ranch. He keeps stock and bees, cultivates a small piece of ground, and lives there because both himself and wife were invalids, but have good health in their mountain home. Here he showed me a colony of bees camped out on a live-oak bush. He found them three years previous, and left them there to see how they behaved themselves when enjoying California climate. They had quite a large mass of comb, were strong in numbers, and had this advantage, that they could pass out and in at either the top, bottom or sides without hindrance.

Up the right branch we arrive at Mr. Pleasants' bee and stock ranch. He is a typical Californian, and an old timer; the President of our County Agricultural Society, etc. Here we are about 18 miles from home, and we have passed over the finest road that one could wish to, and the rise is so gradual that one would scarcely believe that he was so far above the valley. We have also seen the natural and beautiful groves of live-oak and sycamore trees on the route, and the grandest mountain scenery, something to admire and remember. Mr. Pleasants is at the head of the canyon. Besides the keeping of cows and cattle, he has quite a herd of Angora goats. Stock of all kinds thrive the entire year on the natural feed, wild oats, burr clover, alfilaree, etc. When the feed ripens it is made into hay right on the ground, and when the first rains come it springs from the seed right into the richest kind of feed again. I have seen acres of wild mountain oats, of such rank growth that it was quite difficult to walk through it. I will here remark that there is no rain or dampness to injure this natural feed for months right on the ground where it grew. Think of that, you who are pitching hay into barns one-half of the year for the sake of pitching it out the other half.

Now we have to take you back to Santa Ana, and take a fresh start in a southeasterly direction. We pass through Tustin, three miles from Santa Ana, consisting of a wealthy class of inhabitants, with their well-kept orange orchards, walnut groves, and other fruits; two stores, three churches, school-house, blacksmith shops, bank, large hotel, etc. Here a few years ago Kansas people sent out an agent to "spy out the land;" he bought a tract, and it was subdivided into 2½ and 5 acre tracts or ranches, on each of which is located a prosperous and contented family. They stuck down a grape and fig cutting, and in two years they could literally sit under "their own vine and fig-tree," and there is none to make them afraid. A street-car line connects the place with Santa Ana. They also have a branch railroad, depot, fruit shipping house, etc.

Passing Tustin, we come to, or pass through, a barley field, where they raised the past season 800,000 sacks of barley, a part of it being shipped to Germany for brewing purposes. This is all raised without irrigation. Eight steam threshers are at work for three months. The lowest wages were $2.00, and from that to $5.00 per day.

We next pass into the hills, and near the Miner boys' bee-ranch, where they obtained their 20 tons of honey the past season.

Winding among the hills over into the Aliso canyon, at the head of which we pass one or two bee and stock ranches combined. On the route we pass flocks of sheep which produce two crops of lambs and two crops of wool per year.

We now wind up over a spur of the mountain and down into Live-Oak Canyon, where we pass three more bee and stock ranches. At the mouth of this canyon we pass a mountain school-house, located in Trabuco canyon. Up this canyon is located several more bee and stock ranches. Crossing this canyon we climb up on to a plateau of several hundred acres of level land (called here

"mesa"). On this is located Mr. Robinson, a young man with his family. He combines stock-raising, blooded-horse raising and bees. Passing here we move on up, then down and up again, over into Bell canyon, where Mr. Joplin is located. He combines stock, bees and fruit. He sold $600 worth of fruit to our World's Fair committee, put up in glass in the most attractive form. He was also the Manager of our county exhibit at the World's Fair. The fruit was raised on a very small piece of ground. He raises the finest kind of oranges, and all kind of fruits.

The next is Mr. Miller, who a few years ago at one time shipped out of Santa Ana 95 tons of honey of his own producing. He raises fruits of the finest kinds, and also raises stock.

Two miles from here, away up, is Mr. Fox, with stock and bee raising combined, also raising boys, for here we could see four little chaps on a gentle horse or mule every morning, loping away over the mountains five miles to the Trabuco school and back again at night. The horse would be staked out to feed on the natural grasses through the day.

The largest proportion of these people were in straightened circumstances, and out of health, when they went into the mountains. They are all now, without an exception, in excellent circumstances financially, and enjoying excellent health.

From Mr. Fox's we can go over the mountains on a mule trail into the Hot Springs canyon, where two bee-ranches are located. Hot Springs is a famous resort in summer for invalids and health seekers. The road from this place comes down into the valley at old San Juan Mission, 25 miles from Santa Ana. There are two more bee-ranches located high up above the San Margarita stock ranch. There are three more located in Laguna canyon, on a road leading from the valley to Laguna and Arch Beach Bath, quiet summer resorts for people from Riverside and San Bernardino counties.

In another article I will tell what I know about California bee-keeping.

Santa Ana, Calif.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

Getting Bees to Work in the Sections.

Written for the American Bee Journal

BY A. M. TOWNER.

Allow me to say something on Query 899, and give my method of getting bees to work in sections. First, the hive I use consists of two shallow brood-chamber sections, each holding eight shallow frames. It is called the "Alternating" bee-hive. It uses supers the same size as the brood-case.

Now, instead of using both sections over one bottom, I have a bottom and cover for each section. I have a queen and small colony in each, placing them side by side, both facing east. Each of the sections are equal to five Langstroth frames. You will see that by stimulating a little I can cause each queen to fill these small combs almost solid with brood. I stimulate a little from a month to six weeks before the expected honey-flow.

Hold on, I think I hear some one say, "Don't your bees ever swarm?" The truth is, I am not troubled with swarming at that time of the year (July) when the stimulating is done. The reason I have assigned for this is its being out of the natural swarming season, and bees are then slow to get the swarming fever, as our swarming season is in May, if there is any nectar at that time, and there seldom is. Our main flow is from Spanish-needle in September.

I watch the bees closely, and as soon as the combs begin to whiten, I take one of these colonies and turn it half way around. I then lift the other off the bottom and set it on the ground, placing a super in its place. I now shake the bees, queen and all from this last section in front of the super, and place these combs over the colony first removed. Now the bees in the super with the addition of field-bees from the colony first removed, makes them so strong that they at once commence drawing out the foundation, which I use in full sheets.

In 24 to 48 hours I raise this super and place a brood section under, filled with eight of the most solidly capped brood-frames to be found in the whole 16, shaking the bees off so as to be sure not to get the queen. Then I turn this small colony gradually around beside the one with the super, then suddenly back again, causing the bees that hatched meanwhile to join the colony with the super.

I have tried the above plan the past

two seasons, and I am highly pleased with it. Although the past two seasons were almost failures, I have realized fair returns for my labor. The bees having commenced to work in the super, they will not stop when the brood is given back, but the queen will go down in the brood-case, and I am never bothered with brood or pollen in the super.

I write this that others who have not been successful in getting bees to work in the sections might profit by my experience. The above plan may not work so well in other localities.

Last season my bees averaged 28 pounds per colony, or per double colony, rather, and I do not know of any one else in this locality that got a pound of surplus honey. Our main flow is from Spanish-needle, is of excellent quality, and never candies; in fact, I never knew any of our honey to candy.

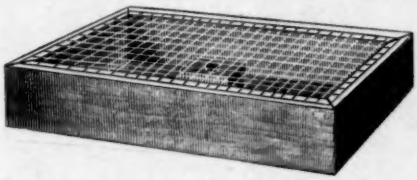
Bronaugh, Mo.

A Bee-Feeder for Spring Use.

Written for the American Bee Journal

DR. O. S. BROWN.

In this part of Ohio, all successful bee-keepers are compelled to feed more or less every spring to stimulate brood-rearing, and to supply the needful food for the bees during the long, cold rains which occur every spring. I have had much annoyance in using the various forms of feeders described by our lead-



ing apiarists—all those feeding in the surplus chamber necessitating the disturbing or removing entirely of the absorbents over the cluster; while those feeding in the brood-chamber compel the removal of one or more brood-frames, provided you have a full colony.

After much thought and many failures, I at last made a feeder, from which I have much satisfaction in using. It is not patented, neither do I manufacture it for sale. Thinking it might interest the readers of the "Old Reliable" to have a description of it, I give herewith a cut of it, with full directions for its manufacture.

It is better to make it of some soft wood, such as pine, poplar, etc. For the bottom, get out a block 8 inches long by 5 inches wide by ½ inch thick. Now get out a strip 26 inches long by 1¼ inches wide by ⅜ inch thick. This is for a rim, which is to be nailed edge-wise upon the bottom block. If you want to do a nice, neat job, cut the strip in lengths for the sides and ends, using a square miter at each corner, like a picture frame, and nailing each way. This rim should be of the exact size of the bottom. Nail fast by nailing through the bottom into the strips.

Lastly get out a block 2 inches by 1¼ inches by ⅝-inch (I usually take a piece of one of the blocks which I saw off the rim, for this), and nail it flat-wise in the center of the bottom on the same side the rim is nailed. Be certain to nail in each corner of the block; then bore a hole through its center and bottom with a ⅝-inch bit. This is for the bees to enter the feeder.

Cut a piece of wire cloth, (such as is used for fly-screen) 8x5 inches, and turn ¼ inch down on each side, so that it will the better hold the tacks. Tack this over the rim upon the top of the feeder. Heat some beeswax, or paraffine, quite hot, and at the same time heat the feeder until it feels warm to the hand; now pour the wax, or paraffine, (paraffine being the best) into the feeder, and slowly turn it until every part of the interior is in thorough contact with the hot material. Pour out all that is not held by the wood, for future use. A feeder thus coated will neither sour nor leak the syrup, which is very essential in spring feeding, as the feeder is much more liable to sour in spring stimulative feeding than in fall feeding for winter stores.

To place the feeder upon the hive, I remove the chaff cushion, and with a sharp pocket-knife make two V-shaped incisions in the burlap or oilcloth, each incision being about one inch long, and the two being separated about ¾-inch at the widest point. Turn back the flap thus made, and place the auger-hole in the feeder directly over it. This opening should, of course, be directly over the cluster.

To fill the feeder with syrup, I use an ordinary tea-pot of large size, having a long spout. It only takes a moment to lift the cushion, pour in the hot syrup through the wire-cloth, and replace the cushion and pass to the next hive. It is surprising how soon one person can feed 25 to 50 colonies in this way, and speed is not the only feature. You disturb

the bees but very little; you are not troubled by stray bees coming out at the top of the hive; neither do you admit the cold air into the cluster to chill the brood; and yet you have the feed just where you want it for comfort and ease of access for the bees.

Londonderry, Ohio.

Moving Bees—Rendering Wax.

Written for the American Bee Journal

BY I. W. BECKWITH.

Mr. C. H. Coleman, on page 249, does not tell us what trouble he anticipates in moving his bees, but I presume he wants to know how he can hold the combs rigid.

Take ¾-inch wire-nails (those with large heads are best), and drive one into each corner of the frame so as to come between this and the adjoining frame, letting the heads project far enough to hold the combs apart the required distance.

Now close the hive-entrance securely, take off the cover, and tack on one of wire-cloth, and if you do not have springs to haul on, fill the wagon bed nearly full of straw, place the hives on this, and drive ahead; and should the weather be warm or cold, your bees will carry all right.

BEESWAX RENDERING.

I expected to find Chas. Dadant's method of rendering wax in the last issue of the BEE JOURNAL, but as it was not there, I will tell how I do it, and get yellow wax every time.

I heat the comb in any vessel except iron or rusty tin, with plenty of water; stir frequently, and see that the comb does not burn on the bottom of the kettle.

When the wax is all melted, and while quite hot, I put the pumice into a strong cloth strainer and press as hard as the strainer will bear. As each cocoon cup is likely to be filled with wax, a considerable pressure is necessary. A hand cider-press would be just the thing for this work.

I then return the wax to the heating vessel with plenty of water, and when it is all melted I keep it hot a considerable time without boiling, and what impurities there were in the wax which gave it the dark color, will settle into the water or form a layer on the under side of the wax, which may be shaved off when cold.

If I should burn the comb on the bottom of the kettle, it would give the wax a stain, which I could not wash out.

Any dark wax may be cleansed in this way if it has not been scorched, or stained in an iron kettle.

Fort Lupton, Colo.

Foul Brood—Its Symptoms and Cure.

Results of Experiments at the Michigan Apiary.

BY. R. L. TAYLOR, APIARIST.

During the season I have given considerable attention to the disease known among bee-keepers as foul brood, which from its insidious, highly contagious and deadly character, is the one disease of the hive to be greatly dreaded by the apiarist. It no doubt attacks and greatly curtails the life of the mature bee, but it is in the case of the bee in the larval state that its destructive effects are most evident.

Like many of the diseases to which the human family is subject, it is induced by bacteria, to which in this particular case the name "bacillus alvei" is given, and such is its malignity that when once present, unless proper measures are taken to keep it in check, in the course of three or four years whole apiaries are swept away. I am inclined to think that it is often present where not suspected, and that often the destruction ascribed to the severity of the winter should be assigned to it.

How to detect the presence of the disease and how to effect its cure are the practical points to which my attention has been chiefly directed.

My experience with it is not confined to the past season, but runs back over the past seven years during which I have cured more than 100 cases largely during the first two years of the period, but I became so interested in the study of the disease and so certain that I could control it that I was not anxious to be entirely rid of it, preferring rather at some risk to get as thorough and practical acquaintance as possible with its peculiarities and with the best methods of dealing with it.

HOW FOUL BROOD IS CONVEYED.

It would be important to know, if possible, all the ways in which the disease is conveyed from one colony to another. Whether the bacteria may be carried in the air to a new hive, or whether a bee from a diseased colony may carry them out on its feet or body, and in gathering

nectar deposit them on the flowers so that they may become by chance attached to another bee from a healthy colony in its visits to the same flowers, and thus become the means of spreading the disease; or whether a bee from a diseased colony will convey the disease, if on returning from the field with a load of nectar it enter a hive not its own, I know not; but there are numerous ways by which the disease may certainly be spread which should be familiar to every bee-keeper. They all depend upon the principle that the incorporation of the bacteria with the food to be given the larval bees will start the disease afresh.

Some of the more common ways in which this is done are the following:

1st. The "swarming out" of bees from a diseased hive and coalescing with a healthy colony.

2nd. The artificial uniting of a mass of bees from a diseased colony with a healthy colony.

3rd. The giving of a comb from a diseased colony, or even a very small piece of such diseased comb to a healthy colony.

4th. The robbing of a diseased colony by bees from a healthy colony.

5th. The feeding of honey taken from diseased colonies to healthy bees.

When it is known that the disease is caused by bacteria, it would be readily granted that it would be contracted from comb containing diseased larvæ, but it may be questioned, as it has been, whether it could be contracted from honey taken from the combs of a diseased colony; but when it is considered that the bees are continually traveling back and forth over open cells containing the putrid remains of the diseased larvæ to the open cells of the honey, and that they endeavor to remove from the cells the glue-like mass with their tongues, and then insert their tongues into the cells of honey to obtain their food, it must be admitted that it would be very strange if the honey were not thoroughly contaminated; and that it is so, and that the life of the germs is preserved in the honey, seems abundantly shown by an experiment I made with 30 colonies to which I fed honey, not to exceed one per cent. of which was taken from diseased colonies. The result was that within two weeks 29 of the 30 colonies were badly diseased.

Honey may be safely considered the great source of danger, because under all possible circumstances it is greedily taken by the bees and conveyed to their hives and their own stores thereby contaminated. It is to the last degree important, therefore, that whenever the disease is known to exist, or its existence suspected, extreme care be taken that the bees have no opportunity to get a taste of contaminated or suspected honey.

SIGNS OF THE DISEASE.

Now as to the signs by which the presence of the disease may be certainly known.

So far as I have been able to discover there is one symptom, and one only, by which the average bee-keeper may determine without danger of error whether the disease is present, and that is found in the character of the remains of the larvæ before, in the course of time, they become dried up.

Brood dies from several causes—perhaps from other diseases—but there is always a plain distinction to be observed between the appearance of the larvæ dead from foul brood and of that dead from other causes. The substance of the former (foul brood) is homogeneous throughout, that is, all parts of the mass in a given cell are of the same consistency, that of the latter generally varies in consistency, one part being watery, another more or less solid; the former is of a solid color, brownish like coffee prepared for drinking by the addition of milk, the latter is usually of different colors, often partly white and partly black but if in the grub stage it is nearly white; the former is without form like a drop of glue, or becomes so on being touched, the latter in all cases retains its shape with more or less persistency; and lastly the former is always viscid, the latter never. This characteristic alone, I believe, always furnishes a sure test.

Take a sliver, match, or straw and inserting one end into the dead matter in a cell withdraw it; if the matter proves to be sticky or ropy as shown by following out the straw in a string you have foul brood, otherwise not. So far as is now known if the above rules are carefully applied there never need be any doubt as to whether the disease exists or not.

However, unless one's attention is especially directed to the matter, one is not likely to discover the presence of the disease until it has practically destroyed the colony, and perhaps also been conveyed to other colonies, hence it is important as an assistance in the discovery of the disease to bear in mind the following facts:

The life of the larva may be destroyed either before its cell is capped or after,

and in the former case it is not capped at all.

As soon as the larva is dead, perhaps before, it loses its natural glistening pearly whiteness.

The capping of cells containing the dead larvæ have an unnatural appearance,—they are generally more or less sunken, sometimes perforated, and often darker in appearance than is natural.

By fall, if the colony is still strong, such cappings are all, or nearly all, removed.

After some time, at least by late fall, the dead larvæ becomes dried down to a thin, dark-brown scale attached to the lower side and extending almost to the entrance of the cell. They are then almost imperceptible except to the experienced eye when held in a favorable light.

When the disease has made considerable progress it is attended by an extremely unpleasant odor which may be preceived by holding the nose to the comb affected; sometimes it may be felt even when the cover is raised in opening the hive.

After the disease has obtained a firm foot-hold the strength of the colony gradually declines and a suspicious and increasing listlessness is shown in its efforts to collect pollen and nectar, until, at length, unless the apiarist interferes, it becomes the prey of robber bees, and the disease is widely disseminated.

The time required for the destruction of a colony varies from one to three or more years, owing to the amount of infection and to the virulence of the disease in the particular case.

The disease seems gradually to wear itself out, if I may use that expression. Seven years ago in some cases in three weeks from infection nearly one-half the brood was dead; during the past season in two colonies which each showed several cells in May, not a single cell could be found in September.

METHODS OF ERADICATING THE DISEASE.

So far I have set forth the signs by which the disease is known, almost in mere outline indeed, but sufficiently, I think, so that any intelligent person using care and attention cannot go astray; and now it remains only in the same brief way to explain the methods which have been discovered by which the disease may be banished from the apiary, but first let me warn every one except as an experiment, and at his own risk, not to place any reliance for a cure upon any of the drugs which have been recommended for the purpose. I have tried phenol or carbolic acid and salycilic acid in numerous cases, but in no single instance did it appear that even the first step was made toward effecting a cure.

There is a heroic method recommended by some and that is the destruction of hive, combs and bees by fire. I have never tried it but no doubt it would be effectual so far as the individual colony is concerned, but whether it would be as to healthy neighboring colonies would depend on whether it were properly done, and whether it were properly done or not would depend on whether any of the bees were allowed to escape—if they were, the disease would probably be spread rather than circumscribed. The process is evidently one requiring extreme care and only to be recommended to one who is sure of his plans.

In the method which I recommend and which I have thoroughly tested in a hundred cases or more, without a single failure, so far as I know, one must be prepared to disinfect the hive and all its belongings, except of course the bees, by a thorough boiling. My rule is to boil each part fifteen minutes. The combs are of course destroyed but the wax is saved.

Having provided as many hives as there are colonies to be operated on—the hives to be furnished with frames, either filled with foundation or with starters of foundation—combs will not do at all—proceed as follows:

Select a time when some nectar is being gathered and an hour of the day when the bees are not flying, then move the first colony a little to one side and place the new hive, which should be like the old in outward appearance as nearly as possible, upon the spot where the other stood, then as rapidly as possible take the combs from the colony and shake or brush all the bees upon the ground in front of the new hive, of which they will at once take possession, and then remove the combs and hive to a place of safety, to be disinfected, being careful not to break the comb so as to let any honey get upon the ground or elsewhere for other bees to gather up. In like manner treat the other colonies, but if any of the combs contain brood which it is desirable to save, they may be given to one or more of the infected colonies which are then to be removed for treatment as soon as the brood is hatched. This course will insure a cure.

If the bees were given a hive containing comb they would be sure to carry the disease with them.

During the past season I treated two colonies as an experiment, when there were no flowers from which to gather

nectar and by carefully feeding them for two weeks just sufficient to keep them from starving, they were afterwards found to be free from disease, but this course requires great care, or at least is not to be recommended without further experiment.

In all cases it is desirable to place a queen-trap at the entrance of the new hive to prevent the bees absconding.

Lapeer, Mich.

The Nova Scotia Convention.

Written for the American Bee Journal

BY E. F. BEELER.

The annual meeting of the Nova Scotia Bee-Keepers' Association was held at Wolfville, on Jan. 18, 1894, with Pres. J. B. Davison in the chair. The reports of the Secretary and Treasurer for the past year were read and approved. The President's address was listened to with a great deal of interest and enthusiasm, and upon request he gave his consent to its being published.

The following officers were elected for the ensuing year:

President—J. B. Davison.

1st Vice-President—A. J. Woodman.

2nd Vice-President—J. R. Woolover.

Secretary and Treasurer—E. F. Beeler.

Mr. S. C. Parker, Secretary of the Nova Scotia Fruit Growers' Association, was present, and spoke of the desirability of uniting the Bee-Keepers' Association with the Fruit Growers' Association, and a committee consisting of E. F. Beeler, C. R. Pineo and C. A. Patirquin was appointed to confer with the executive of the Fruit Growers' Association, in regard to a basis of amalgamation, to be considered at their next meeting.

The following questions were discussed:

BEE-KEEPING AS A BUSINESS.

1st. How does bee-keeping compare with other pursuits, upon which to depend for a living?

The impression expressed by several members was very favorable, and in this locality especially so.

THE BEGINNER WITH BEES.

2nd. Should a beginner purchase bees in box-hives and transfer them? If so, how many, and how to transfer?

The general expression on this question was that a beginner should purchase one colony in movable-frame hive.

LOCATING AN APIARY—SPRAYING.

3rd. What are the essential points in locating an apiary?

This was discussed at some length.

Prof. Favell, of the Horticultural school, spoke in condemnation of spraying fruit-trees while in bloom, as it was injurious to the fruit as well as the bees.

It was decided that Mr. R. W. Starr and the President act as a committee to arrange for suitable prizes to be offered for a honey display at our next Provincial Exhibition, to be held in Halifax next autumn.

The convention then adjourned.

E. F. BEELER, *Sec.*

Wolfville, N. S.

The Cortland Union Convention.

Written for the American Bee Journal

BY C. W. WILKINS.

The Cortland Union Bee-Keepers' Association met in Good Templars' Hall, in Cortland, N. Y., on Feb. 27, 1894.

The meeting was called to order by Pres. M. R. Wood, after which the minutes of she last meeting were read and approved. On account of the small attendance, the election of officers was postponed until the afternoon.

The President addressed the meeting in a very kind and fatherly spirit, on the negligence of humanity in improving opportunity for increased knowledge from the experience of others, when it could be had gratis. He applied this especially to the bee-keeper, and doubly emphasized his statements by referring to the small attendance at our apicultural gatherings, when our county contains enough in the profession to triple the attendance. "Knowledge and strength," said he, "have been said to be 'The two essential requisites of success,' but ahead of them all I would place *ambition*. Without it, what good is learning?"

The meeting was next opened for questions and free discussion.

THICK TOP-BARS.

This subject was mentioned with the remark that it was believed by some that these bars would prevent the building of brace or burr combs. It was soon apparent from the remarks that all the benefits to be derived from this style of frame, in the judgment of the "old veterans" present, was to prevent the sagging of the comb and its support, which thus enlarges the space between the top-bar and the super, and consequently causes the bees to build their "ladders." It was believed that the T-shaped top-bar would perform all that was claimed for the thick bar, without the waste of valuable space, and the debarring influence on the bees in entering the boxes so far remote from their brood-nest, which must follow from the use of the thick bars.

The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

The meeting was called to order by the President, and the roll was called.

The election resulted in the re-election of all officers, as follows:

President—M. R. Wood, of Cortland.
Treasurer—T. T. Barrows, of Groton.
Secretary—C. W. Wilkins, of Homer.

STOPPING SWARMS WITH NOISE.

The meeting opened for discussion with the question, "Through what reason is it probable that bees alight, on swarming, by drumming on tin pans, ringing bells, etc., if they do, as used to be believed?"

Some thought it must be through confusing the queen and bees by the unusual noise until they would alight to rest. Others believed it was the likeness to thunder, which made them believe a storm was approaching, and to avoid a soaking and possible drowning, they cluster to be prepared.

TIRING OUT THE BEES.

This is the way Mr. W. Houglin fixes them. When he is on hand, and a swarm commences to issue, as soon as a part of them are out he closes up the entrance and tires out those in the air before allowing the next installment to come forth. He then allows a part of those in the hive to join the truants, when the remainder are again subjected to close confinement. He next allows the remainder to decamp.

His theory is, that they will alight when part are tired, and that so few of a large swarm are not apt to abscond, provided "her majesty" made her appearance with the first issue. But as the last condition is unusual, that point could not be depended upon.

Several other questions of varying interest followed, closing with one on

WINTERING BEES UNDER SNOW.

"Do bees winter as well under deep snow?" was asked.

It seemed to be the general opinion from experience and observation, that the less snow around the hives the better for the welfare of the colony; although the point was strongly maintained that snow in very cold weather is beneficial.

At the request of Mr. W. Houglin, of McLean, it was decided to hold the spring meeting at his residence, upon the call of the Secretary.

The convention then adjourned, *sine die*.

C. W. WILKINS, *Sec.*

Homer, N. Y.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Mar. 15, 16.—S. W. Wisconsin, at Boscobel, Wis.
A. A. Arms, Sec., Hurlbut, Wis.

Mar. 16.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Apr. 4 5.—Texas State, at Greenville, Tex.
E. J. Atchley, Sec., Beeville, Tex.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Cold Weather for the Bees.

A "norther" reached here on Feb. 15th; the wind was brisk, and this morning we find the snow 4 inches deep, with a bright sunshine. We hope it will not injure the bees much. I wonder if Mrs. Atchley did not see snow about the 12th or 13th. The mercury here was about 15 degrees above zero this morning. R. A. SHULTZ.

Cosby, Tenn., Feb. 16.

Rearing Good Queen-Bees.

On page 212, Friend Michael makes some good points about rearing queens, but isn't he a little forgetful when he speaks about a larva three days old being unfit to make a queen? Is it not generally stated that the food of worker larvæ for the first three days is the same as royal jelly? The interesting table given on page 205, if it does not show it exactly the same, shows not much difference, the advantage in albumen, as Herr Reepen observes, being in favor of the worker larvæ. Only after the fourth day does the worker larva get an inferior diet, so according to that, a young queen emerging not less than 10 days after the bees commence to give it full attention as a queen, ought to be all right, providing all other conditions are favorable.

Marengo, Ill. C. C. MILLER.

Experimenting on Wintering Bees.

I have just examined my bees with reference to how they have wintered. I winter them on the summer stands, and this season I have experimented a little so as to ascertain if possible the best method of wintering. I packed all of my weak colonies with a chaff division-board on each side, with a cushion over the brood-nest, and of these I have lost nine. Some of the stronger colonies I put up with a division-board in the north side of the hives, with a cushion on top of the frames; others I put up without any division-boards, but with cushions on top of the frames. Of the last two classes, about an equal in number, have not wintered well.

By my experiments, I have learned some very important lessons. One is, that it makes no difference how large a colony of bees you have to winter, it is best to put chaff division-boards on both sides of it. And another is, if you have but one division-board to the hive, it is best to put that on the south and not on the north side of the hive. The reason of the last is apparent. In the winter the bees will cluster to the warm or south side of the hive, and if your hive is thin—say ⅞ of an inch, and you have no division-board—the bees freeze more or less every cold spell, until by spring they are greatly depleted, if not entirely destroyed.

My hives face the east, and in cold or cool weather I always know where to find the bees; they are on the south side, and as close to the wall as they can get; and to keep them from freezing, they should be kept away by a division-board, or by some other means. H. F. COLEMAN.

Sneedville, Tenn., Feb. 10.

He Likes the "Bee Journal," Etc.

I must say that I do like the AMERICAN BEE JOURNAL; and as I read of the different bee-keepers, and especially the lady bee-keepers—what they have done and are doing, the thermometer seems to rise to almost 100 degrees. I would like to meet with all in convention sometime, and speak face to face, and have a good shake of the hands. W. S. WALTON.

Scarboro Junction, Ont.

Had a Good Honey-Flow, Etc.

Last winter and the spring following were hard ones on bees in this part of Wisconsin, many losing all. Mine kept dwindling until in May, when I had 7 colonies left out of 18, 4 of which were fair ones. I increased them to 21 colonies again, with plenty of natural stores, and took about 600 pounds of extracted honey. We had a splendid honey-flow here from white clover. Basswood was a failure. Bees seem to be wintering nicely so far, in the cellar. LOUIS GEORGE.

Oakwood, Wis., Feb. 15.

The "Admitter" Part Explained.

I see from your notice of my bee-escape on page 168, that you do not understand what I mean by the "admitter." In my hive, which is adapted to local and migratory use, are two trap doors, one on either side, which has two holes in each, two being for the transmitter, and the others for the admitter and the escape. When preparing to move, the glass end of the device is in the hive, and the bees from the field come to the hive and can go in and none come out.

When used as an escape the glass is outside. It is sometimes used in conjunction with a piece of perforated zinc as a drone-excluder, and is also a great time and labor saving invention when used as an escape-board, being very fast and effective.

It is with this little device and transmitter that I can draw bees from any kind of

hive and convey them to another, or to a surplus apartment away from the hive where bees of different colonies work together in perfect harmony, without disturbing the comb or injuring the bees. Having made this discovery, I am enabled to have my colonies of a uniform strength, form new ones, and control swarming. The old plan of getting surplus honey over a queen is an uncertain trust, as experience has proven. JAS. H. DAVIS.

Wood-Ashes for Winter Packing.

A good material to fill chaff hives is dry wood-ashes. I have used it for two winters with good results. The ashes, being a non-conductor, they will also preserve the wood, and no vermin will hatch in the filling. The ashes ought to be perfectly dry when put in, and about 1¼ inches thick will be sufficient. No ashes should be used for winter protection on top, as I lost one colony last winter on that account. I think that dry sawdust on top is the best.

I have 14 colonies this winter, and they are wintering all right so far, on the summer stands. WM. BRIMMER.

White Creek, Wis.

Haphazard Bee-Keeping.

I like the BEE JOURNAL very much, as it gives the experience of practical bee-men, such information as all bee-keepers need. I have 19 colonies of hybrid bees, and would like to Italianize them, but they build their own comb, and it would be a hard matter to change the queens.

Some of my neighbors have bees, but they take very little interest in them. They let them go haphazard like, and if they store honey, all right; if not, they curse them and say they are not worth keeping. But not so with me; I take all the care I can of them, and if so unlucky as not to have enough stores to keep them, I feed them until they can supply themselves. Last year was a poor honey year here, and not so much honey, especially late. My bees are all right now.

Jett, Ky., Feb. 12. J. L. CRUTCHER.

Dividing Colonies of Bees, Etc.

My bees are in fine condition. I winter them on the summer stands. I have kept bees for over 50 years, but am learning still. The AMERICAN BEE JOURNAL helps me out a good deal.

Much has been written about dividing bees, but I will explain my way of dividing two colonies into three. I take two colonies, and will call them No. 1 and No. 2. No. 1 I drum into a new hive containing frames with starters; when all are in, I examine them by putting the hive on a black cloth; when the queen is present she will lay eggs on the cloth in 5 or 10 minutes—the sooner she lays, the better the queen. Then I put them back on the same stand, but keep them cool a couple of days by covering them over.

I then take No. 2 and remove them to a new location, and put the drummed-out hive, with all the brood and honey, in the plase of No. 2. The most of the working-force will go to the old location. I give them a young queen. By this method all three colonies are about even in strength, and all right for the honey-flow.

Thayer, Ind., Feb. 10. A. ROORDA.

Bees Wintering Well.

The bees are shut in just now by a cold spell. They are wintering very well. I have not lost any so far. I will move them next week to Crystal Spring Farm Apiary, where I will do a more extensive business than I did formerly. EDW. E. SMITH.

Carpenter, Ills., Feb. 18.

LATER.—March 1st.—I moved my bees on Feb. 26th, and lost several queens. We have had fine weather every day since, and the rest seem to be doing well. E. E. S.

Alone, but Contented and Happy.

I have been entirely alone since Dec. 28th. It keeps me busy all the time looking after and attending to everything around the place. I milk two cows, feed my horse and harness it when I want to drive, attend to fine poultry—88 in 10 different yards, houses, etc.; and do all my house-work. My friends come to see me almost every day. I don't know another place in the whole world at which I would feel as safe and secure from harm or molestation, as in our own beautiful, quiet little village of Salado. I have never seen but one tramp at my home since I have lived here (now going on 19 years), and that was seven or eight years ago. MRS. S. E. SHERMAN.

Salado, Tex., Feb. 20.

Moving Bees—Wintering Tip-Top.

In answer to C. H. Coleman's inquiry on page 249, I would say: First secure the combs by notching two slats and dropping the same at each end of the frames. Then raise the cover and bottom 1-16 inch, and secure it by boring three holes in ⅛-inch strips the length of the depth of the hive—one screw in the top board and one in the bottom, also one in the middle of the hive; use 1-inch screws. Cover the entrance with wire-cloth, and place the hives in a wagon and go ahead. Place the hives lengthwise of the wagon.

Bees are wintering tip-top. We had a very short season last year, yet they did well for the time they were at work. July 20th closed the honey season in this vicinity, and but very little honey came from linden or basswood. I know of no reason why basswood did not yield, as the trees blossomed well. Bees paid but little attention to it during bloom. My yield was a little over 50 pounds to the colony, spring count. I am well satisfied. A. Y. BALDWIN.

DeKalb, Ill., Feb. 26.